

**R E M A R K S**

Claims 1, 3 and 5-14 are pending in this application. Support for new claims 8-14 is found, for example, at pages 4, 5 and 7 of the specification.

**Issues under 35 U.S.C. 103(a)**

Claims 1, 3 and 5-7 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Piekarski '995 (EP 0 423 995). This rejection is traversed for the following reasons.

**Present Invention and Its Advantages**

The present invention is directed to a fluorine-containing polymer and an electric wire or cable coated with this polymer, wherein the polymer includes tetrafluoroethylene (TFE) and hexafluoropropylene (HFP), and a total content of any alkali metal or alkali earth metal, which does not exceed the value of formula (1) and which exceeds the value of formula (2) as recited in claims 1 and 3, for example. Note that the alkali/alkali earth metal content is controlled to be very low. Also note that the polymer chain terminals substantially comprise  $\text{-CF}_2\text{H}$ .

By employing the above-noted features, the polymer of the present invention exhibits unexpected, advantageous properties. For example, the polymer of the present invention exhibits an

advantageously low dielectric dissipation factor as evidenced by a comparison between Examples 1 and 2 (present invention) and Comparative Examples 1 and 2 (containing higher amounts of potassium) as described at pages 9-11 of the specification. Additionally, the polymer of the present invention exhibits advantageous resistance to discoloration as evidenced by the tests conducted in connection with Example 3 (present invention) and Comparative Example 4 (containing higher amounts of potassium) as described at pages 11-12 of the specification.

**Distinctions between Present Invention and Piekarski '995**

Piekarski '995 discloses a coaxial cable having foamed and unfoamed insulation constituting a melt processible copolymer of TFE and a comonomer, such as HFP, as noted at page 2, line 48 to page 3, line 13. Piekarski '995 further discloses at page 3, lines 31-43 and lines 53-54 that the desired polymer chain terminal group is  $-\text{CF}_3$ , whereas the undesired and preferably absent terminal group is  $-\text{CF}_2\text{H}$ . Piekarski '995 further describes in Comparative Examples 1 and 2 a commercial TFE-HFP copolymer, which exhibits inferior dielectric dissipation factor properties and which appears to have been formed using a "wet heat treatment", which results in higher content amounts of alkali or alkali earth metals as discussed at pages 1-3 of the background

of the present specification. In this regard, note that Comparative Example 1 exhibits a disadvantageously high dissipation factor measurement of  $10.20 \times 10^{-4}$  at 500 MHz, whereas the completely fluorinated terminal group-containing polymer of Example 1 of Piekarski '995 exhibits a more acceptable dissipation factor measurement of  $6.05 \times 10^{-4}$ . Piekarski '995 further discloses Example 4, which is a TFE-HFP copolymer designated "NP-20", a product which has been manufactured by the Assignee of the present application. In this regard, note that NP-20 is not post-treated such that this polymer does not contain alkali or alkali earth metal within the ranges recited in the present claims.

Piekarski '995 fails to disclose or suggest a fluorine-containing polymer, which includes alkali metal or alkali earth metal amounts within the ranges specified by Formulae (1) and (2), in combination with polymer terminal groups, which substantially comprise  $-\text{CF}_2\text{H}$ , as in the present invention. The Examples of Piekarski '995 include  $-\text{CF}_3$  terminal groups, which contrasts with the  $-\text{CF}_2\text{H}$  terminal groups of the polymer of the present invention. Also, the Examples and Comparative Examples of Piekarski '995 fail to include the alkali metal or alkali earth metal content amounts within the ranges of the present invention. Consequently, Piekarski '995 fails to recognize the

advantages associated with the present invention by employing the features discussed above in order to obtain advantageously low dielectric dissipation factor properties and advantageous resistance to discoloration as evidenced by the comparative test results discussed above. Therefore, significant patentable distinctions exist between the present invention and Piekarski '995, such that the rejection based on this document should be withdrawn.

It is submitted for the reasons stated above that all the present claims define patentable subject matter, such that this application should now be placed into condition for allowance.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Andrew D. Meikle (Reg. No. 32,868) at the telephone number of the undersigned below.

Pursuant to 37 C.F.R. §§ 1.17 and 1.136(a), Applicants respectfully petition for a three (3) month extension of time for filing a reply in connection with the present application, and the required fee of \$950.00 is attached hereto.

Appl. No. 10/070,690

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

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By 

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Attachment(s) :

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